

Delication and Plate Bets Boss

SE . NE

THE TAX STREET OF THE PARTY OF

Toler Atolic Convertions deem which State at a series, and a series an

"THE PARTY AND THE PARTY AND ADDRESS OF THE PA

Indiana later, death to be a later, later, placed and the

islet, Johnson Hannellan and darks lalets ......
Leven, delamine, Dohanbwickinske, Kiloken ...
Leven, desamined only from book is laggest:

of ...... Mantan Las Pfois panled on strain

Histor, Harbarbur, Hajarwon, Cabalin, Hasanik,

## Collection and Field Note Book

## No. 32

## (February 3, 1952 - March 11, 1952) 34143 - 34416

MARSHALL ISLANDS	Page No.
Ujelang Atoll, observations from ship, Ujelang Islet, Eneraj Islet, Bieto Islet, Nelle Islet, Enellap Islet	1-2
Nelle Islet 34142	2
Enimoni Islet, Kiriniyan Islet, lagoon beach Bieto Islet	3 4-8
Ujelang Islet	8-9
Enellap Islet, Jerko, Kalo, Raej, Morina,	10-15
Kiloken, Bokan 34149-34170 Ujelang Islet 34171-34216	14-27
Kalo Islet	28-29
Kirinyan Islet	30-32
Enimoni Islet Enellap Islet	33 <b>-</b> 35 35 <b>-</b> 37
Nelle Islet, Bieto Islet, Eneraj Islet, Bikom	
Islet, Bokonenellap and Jerko Islets	37-38
Bokan, Bokanibop, Bohanbwiebiroke, Kiloken Islets examined only from boat in lagoon:	39-41
Bokanjoio, Kiloken, Bohaukemej, Bokanalap,	
MaronLik, Maron Islets	42
Morina Islet	43-45 45-46
Raej Islet	
Birds on Ujelang Atoll and animals	54-63
Wotho Atoll, Wotho Islet34217-34283	66-90 91 <b>-</b> 93
Birds on Wotho Islet and animals	71 17
Biken, Enebarbar, Mejurwon, Ombelim, Eneanik	,
Jibnao, Ujiej, Iroijeman, Enejelto, Eneobnak	: 94
Wotho Islet	. 77-10)

ly USN#

why bootles

begin 34142 end 34416



## Standard Miniature Blank Book

No. 665 9½x6 120 Pages Units No. 667 9½x6 200 Pages Units No. 668 9½x6 300 Pages Units

Made in the Following Rulings

Journals, Day or Cash Books, Double \$ and Cts.

S. E. Ledgers, \$ and Cts.

Double Entry Ledgers Records with Margin Line

When ordering give Number and Ruling desired

Made in U.S.A.

WHEN ORDERING THIS BOOK SPECIFY STOCK NUMBER AND RULING DESIRED.

A BOORUM & PEASE PRODUCT

1952 marshall to ugelang file 3 Feb. 3 - Observations from along south side of atoll. Fairy terns, common moddies, Rably white crowned moddies, with seen flying over ocean. Ujelang Islet - scrub or forest things along seaward side well developed except for try breaks thin stretches one on each side of the gas cut through the dozinat trees. One complete grap in coconuts, one low place. Small Islet west of Ujelang! This, very low, scarcely above high tide, no sand accumulated, covered by scattered bushes and trees. Many turus birds flying over it. rule. Burie Islet - well devel to birds flying overit, green, Kornu Islet - has semb only, many birds flying mit.

1952 03 marshall Is. Vijelang atol Ensaimenetto Islet -Einnlaft ) slet -Well developed fruent Loose frest a scrub belt along seaward along seaward side. side, Perhphis on s. w. Southwest spart is a low frest, most probably corner, also some on east mixed sent with Veryphis, with no coconuts. Coronats on inner frant. much l'ismig which l'emphis also on mother. is yellow and defoliated. east passage beach Love birds flying over it. Love mixed scrub on Kiriniyan Islet appears to be almost lagoon beach, seen from entirely Pisonia forest passage. badly wind - beaten ( seen from several miles). Feb. 3 - Rome Islet lagron beach. a flat of small broken Vegetation a sparse coral surrounded by a mixed serul, with openings, gravel in pebblis in shrubs mainly femplies, slightly higher than with considerable center ? Broken coral blackened. messerschmidia, somemele This bar is of roughly Pisonia. From One atur sealling the same shape as the inderlying beach work coronats. In opening a scattering of trifts of Laptung outline but is shifted patches of low hide scrub. somewhat lagronwad. me Boerhavia tetrandra of tleurya. Some bare leaving the beach-roll well exprosed on outer beach gravel standing um Grotien chal. completely inside it on 34142 fida fallex walp. shout 0.6 m. tall, beaver green, common in openings, flowers nange. formere, low open scrub

Uzelang atoll 1992 marshall 91. 5 many fraing terms fluttering overhead, but natives evidently eat the moddies as a large number af no eggs seen. wings were lying Hundreds of common around recently used noddies sitting in temporary encomprient. erouds on the beacher and flying overhead. Frag # 52 - drift seeds picked up on beach. many nests seen, mostly empty, a few young of valious ages. Very Bag#53 - pumice picked up in beach. young are white, soon turn darle gray. Then fun feathers appear in wings and tall tail and at same time white forehead and crown appear. Vegetation nicely youred: 7 cb. 3 - Burie Islet -Outer felt, on real congloments of bouldean & coloter, is Pemplies frest about 5 m. tall, not especially except outer margin reel constignent above dense. Inside this a belt of merserschmidia, Pisonia high trele level, bearing off inward in a low and fenevola, in the eliff facing inward outer frant of the boulder perhaps 0.5 m. high, with flat. This gradually a shallow dry most. changes to a belt off and gravel, bounded friendly shills of Morinda and guettarda, on lagron side by a in the edge of the arconut pebble beach werely plantation also on the becomes sandier westerand. brulder flat. The inner

Ujelang atolf. 1952 marshall 9s. is lined with a gant of the brulder sparse broken serul flat is often commit of Leaevola, Terminalia, Glastation, with Flewings Messerschmidia with seattered landanus; Triumfetty and Reptures and aground cover of Fleunga, Polyprodicing, The patcher of thuanenand Repturus and areas ground cover. Hundreds of moddies of both species, affect a planted crook week of each seen nesting. squash, small back Fledgling white crowned of alocasia, locally moddier seem to get their white evous well before Canavallia. This pin-feather appear. plantation extends to the lagon beach, which Leven wandering tattles seen in floch on outer roch - flat. 7eb. 3 - Burie Islet on conal nubble in open evenut plantation shrub 3 m. tall, sterile. "akungkung" 34143 Terminalia samoensis Ked, common along layour 44 Polyprodium stolopendia Burnis. fronds erect "kino" common in ground over, especially around and on bases of cornut tunhe 45 alocasia mannhing (1) Silott plants 1.5 m. tall, "wot" n"wat" one small fatch near dwelling 46 Canavallia microcarpa (D.c.) Piper prostrate vine flowers magenta "marlaj"

prostrate, extensive, leaves
Slowers arange with gray; in ground cover 47 Cucurbita maxima Doch. flowers orange with gray fruit "crook- necls" "pankin common near dwellings, apparently plantey

1952 marshall 90. uzelany atolf 11 Feb. 4 - Einnlapp I slet edge of plantation near 5 50 Terminalia and Justing Rock. tree 10 m. tall, 4dm. Thick shoul 3 m. tall; freit immature. common in soul Feb. 4 - Seroles Islet 51 albugs platensis parasitie on Boerhavis short, erect. for Feb. 4 - Kalo Islet 52 Xaglaria sticks black as though very common on sticks lying on ground in Pisonia facit Feb. 5 - Jaisa slet open coronut plantation near 53 Eragrostis amabilis (h.) W. a A. y spreading trift, local patches roots have strong pleasant 54 Fimbristylis cymosa R.A. local in sandy areas freppery oder. "ujoj maroro" on base of quettanda tree on base of coconut trunks edge of scrub forest on coconnit trunks edge of serub fruit

Ujolang atoll marshall 9 2. 13 1992 in serub fruit. 5 99 59 The Rilling on Welet dull salmon color, friable. inside-loose bark of dead coconut trunk 5 60 The Salagen Inlet on coconut trunk in edge of scrubt black on coral gravel in open seint 7eb. 5 - Kilagen Islet. in full sun Feb. 5 - Polsan Islet coral gravel, broken serul regetation 63 Brenhaving tetrandry Forst. prostrate flower pent "not to" root said to be eaten. 14 fida fallag Walf. low shoul event; occasional in openings 45 albugs platensis infected branches shutered parasitie on Goerhavis tetrandy - every leaves reduced. should 1.5 m. Tall, 66 Luciana maritima L. flowers yellow. "kalangi" occasional in semb

ujelang alolo 14 1952 marshall 9 2. 15 Blackirl green 34167 in bare soil in opening Feb. 4 - Kalo I slet on dead slich in mixed fred 69. 5 Dans Islet black filmon boulden film black film in Pismin foreit 7 eb. 7 Polian Poling Islet black on bare coral gravel in opening Feb. 6 Ujelang I slet small cleating on prostrate nighthascending branches strongly association, floreder yellow. "mojej" 71 Wedelig bifling (1.) D.C. forming thick mat around edges of cleaning and in coconit plantation 72 Cassytha filiformis L. langled over other plant, · Lagle parasite on flowers white print not Wedeling bafling, ex. subul From type grute ripe. "han" hani" 73 feftuus repens (Forge.) R. 8 n. van trifted, but sending out deminant ground cover in løng nunners. "ujøj" commit plantation forming dense mat 74 Thurses involute (Forst.) R. as. flowering branches orect. in small openings in plantation

16 1952 Marshall Is. Wielang atalo 17 stems flestry, greenish. 34175 fleunga moderales Gand. "nen britebut" completely cleared space under codernt trees small tre 4 m. tal, 76 Pifetures argenteus (Fork.) Wedd. leave, white beneath. dominant in thickets on The "arme" or "aremé" boulde plat under commut trees. shub 3 m. tall 77 Morinda ectrifolia s. (others much talles); flowers common in evenut felantation white. "my" "used medicially" extensing liana; 76 A promoca tuba (telebell,) Don flowers white. common in exament plantation bele" a"marbele" in thickets and on ground. prostrate; flowers 79 Vigna maina (Bum. &) Mern. v yellow. "marlaja" occasional in open places "(r informante) in undergrowth in count plantation. tel. 6 - yelang atom islet, in village flower manys. Trained to heave been brought 80 Rida acuta Bum. f. small colony near pier, from Panagre. around dwelling. 31 Cuphorbia thymifolia L prostrate, gray green somewhat chlorotic. "mat'to" seen only around mins of papranese installation 82 Eleusine indies (L.) greats. occasional to around dwellings evert, somewhat chlastic. 33 Phyllanthus nimi L. said & have been trought seen only around min from Vonagel. of paparere installation

1952 marsball Is. Ujelang atol 19 erect hert, to 2 m. tall. Cassia occidentalis. flower yellow. fait a common around ruins fleds said to have been of Jupanese installation wought for Parated by Japanese for side.

— colfee but to make me side.

- sterile. "brief, smale" 35 Hymenocallis litteratio (Jacq.) Salil. rare, planted. a show I m. tall; flowers 86 Clarodendrum inerono (L.) Garren. white with maron orcasional strentes stamens, "ulej" plants. Feb. 4 Vijelang Islet, beach at extreme east end. range color, powdery. 87 Trentepolia in back of dead twigs of Complies acidula, exposed of wind flowers white, faintly fragrant "hungi" " hungi" 88 Vemplis acidula Forst. V locally dominant around sandy wash chemit 89 Cyrolica Thalama hemprechin (Ehrenh) forming a dense sod at low trade level on lagon reef flat tufts on a stalle of bound sand embedded go Halimeda stuposa W.R. Tayla common or sandy bottom in bottom. below high tide level on 91 Canterpa urvilliana mont. (det. Taylor green, creeping. race in sandy bottom just below high tide level on lagron reef flat punhish clay-like mass on noch flat between tides

ujelang atoll 1952 marshall 1 s. 20 21 7cb.7 - ujelang blet east end relagion beach, offen stand of Messerschmidia and quettarda in edge of cotonut plantation. main stems prostrate, Triumfetta procumbers Forst. extensive, rooting at node; common in ground branches erect a assending; flowers bright yellow, open in late afternoon andereing 94 Leaevola funtercens (Mill.)KI. should v. 5 m. tall, flowers and ripe fruit white. common component of beach scrub, scattered enlang 95 Messerschmidia argentea (4) tree a m. tall; leaves common along beach plechy, selvery green, " yirin fruit cluster pendent. 96 quettanda speciosa L. v dominant or cordominant small tree 5 m. Tale Lothers much larger), small tree in & scrubblowers white; ripe fruit subglobos, white - plechy externally "wit" 97 Crinum fedansulatum R.Or. growing near dwellings plant up to 25 mi tale for nech up toog m. high; post with great rosette of leaves; preduncle slightly compressed im. long. "hief" tel. 7 - Ujelang Islet central part, near village, in evenut plantation tel 10 m. tell & " cm. thick; 98 artocarpus altilis (Park.) Fosh. v occasional on lagoon side

yelang atolf 22 1952 marshall 2s. 23 3734199 allophylier Timorensis (D.C.) should , mitall, one plant seen, edge of thicket leaves glossy, flowers white. "kutah" "keda" 34000 Stenotaphrum mieranthumi. spreading trufts erect tufts: small colony in open plantation near patty or pomoea literrelis 31. "bele" flowers purple. local along path west 03 Premna obtusifolia N.Br. showle 2.5 m. tall, lamon scented when thicket west of village quen "haar" lagoon side, small Islant, appearing throughout willage vine climbring on ground 04 Canavallia meroceffa(s.c.) Biles and wer bushes; flowers local on path west of magenty, fragiant. Feb. 7 - western part. commut plantation show of metall; sterile. 05 Cordia subcordata fam. small colony in serul near lagoon beach. 06 Tacca lemtospetalvides (L.)O.K. , new leaves just appearing, last years leaves and occasional in opener places fruiting stalles dry. stands grated and standy washed my 07 Engharbig chamissonis Boiss. V stems ascending, local colony on lagren sup milley, glands green; "pural" a "puripur" side in dry open area

1992 marshall to. 34208 Pismia grandis R.B. with som in trucky 5 09 rendergrowth covering large boulder in brushy undergrowth will not far from outer beach; were local colonies along ligion beach 11 Herhandis sonora L. one tree mean layoun brack 7 el. 7 lijelang). comp slight megular breeze ... " C. tel. 8 - Welang Islet, central part near village in coconut plantation 12 Pandamis tectorius Park. . common under coconut, 13 Carica papaya L. occasional in village 14 Hibiacus tiliaceus L. one small colony forming thicket in west of / village Ochrasia oppositifolia (Lam.) K. Schon one wind bester tree on lagoon beach in village

showers yellow (nex),

there's yellow (nex),

Thee 8 m. tall, spreading,

sterile. "pringiping."

tree & m. talf. "Bop".

Many varying individual,

fruit an important

item of diet.

bedraggled wind-beaten

whealthy looking

plants, bearing small

guit. nove seen ripe.

shrub 3 m. talf

chlorotic sterile. "law"

wind-beaten tree, 4m. talf,

flowers white.

"kijbar"

Vial 87 - victary slet orb wearing spriders from undergrowth; and, small species from anat. brill near lagson beach, terrestrial, large ones running on ground meanly. Vial 39 - and vijelang Isld. ants and alrosophila altracted to deadlange mollusks hanging in trees, house-flips around nating divelling. these abundant and 1 annying. Vial 89 - Uzelang 1. Humus animals from pull of notting cornect bushs and stones in plantation.

Vials 90, 91, 92 - inserts attracted to light, yelling Vials 93,94 - Rais (Daisu) Jolet - delracods, etc from well - old well said to day to have been duly by the germans. Vial 9 & given to Carol Waile 4/13/32 12ag # 40 - coul pebbler from lagron beach and in plantation on west end of ujelangs. 1) ag 61 - sample of shed on Eljelang ?. for analysis for phosphous, trace elements ( moistue content).

ujelang atol 1952 marshall In. 31 30 The contour of the Kiringan Islet forest stopes more gradual Vegetation a solid low to lagron than scaward Pisming frest, on a bouldery mobble flat. a few gravelly places near center thingly peat accumulation on some as wind is from lagoon side. gravelly spots. White crowned involdies I racheally no undergrowth and no and mesting gregariously ground cover. all few in certain theed and scattered commit trees small patcher, here of varying ages heathered many nexts to a tree, tall messerschmidis nests bubstantial of trees in front and a large accumulation of Messerschmidia leaves two or three amall etc. Largest colony of morinda. the prest is about several hundred nexts m a 20 x 4 m. space. 40 maximum height. Under these colonies is with their canopy or thin layer of grand, at least at this reason; this sometimes & Sample 54 some Pisonia Des trushe 3' dian. neas base. on bare gravel, sometimes on a thin there is along orale, layer of peat (sample #55). beach a fringe of messerschmidia, with layer of coarse sand some praenola and (sahnfild #56) underlain quettarda me young by rubble. Lample # 57 somewhat chlorotic is treat accumulated cocenut (trunk 1.5 m.) on love author without a few small openings noticeable quans. Humus animals are with tall thin Lefthing noticeably searce on this ground sover.

Sand shells are especially rare. Casual search revealed only I pupillides (while same soft of search in similar situations on which ailuly etc. would have yielded dozens or hundreds of this and other families in same length of time. no dead whells to be seen in litter. On the ground in the inner half of the islet are scattered an abundance of pumming pebbles and cobbles. Around the lower half a third of each is a ent of matted nots. probably lisoning, as the as no other plants. Lample #59 is some of the marterial of these not masser, with framer pebble. Sample \$ 59 Purice is called "tilan" by the natives and is resed as an atrasis.

Enimoni Islet -Island one large mobile flat with many boulders. outer portion mostly stripped bare of loose material except for western edge of s. w. projection, which has some sand files my in a beach. a large area of this outer flat is completely unvegetated, doubtless covered by many brigh tides. Siv. projection very slightly higher, but still probabley covered by highest ! tides, this concred by a pure l'emphis fracta thin stand with a few large but no very large trees, many of tall' show proportions. (eg. 1944 + 1951 photos). The nosts of this doubtless washed by some high tides. mostly on gare with gravel files around noots in a few spots lengten mengselmidie on along outer edge of plantation.

West end with few communts - mixed frest of Pisonia, Cordia allophyllus, generalia, quettarda within. themplies on layron and passage bearles - This largely en boulder- cobble flat! Onter frant largely of Vemplinstand, largely Merserschmilia The undergrowth is sparse mostly tree seedlings and Visonia sprouts. I some Volypodium. Cocount crabs, called "bard" live in burrows in under boulders in coral mbble. The plantation is sparse, with much undergrowth. of liftures, Mounda, etc. tangled with Ipomoea tuba. fleurya on ground patcher of Thursea and Reptimes. Leveral small breadfruit one of papayor. One small patch of near lagon beach. Thered seruh frest on east passage, wide bet. Loose sent of beaevola, Messerschmidia, Gretlanda,

lagron beach.

In general, the freet on lagron side is somewhat lower than an seaward side.

Einilas Islet - along seaward beach a narrow but tall and dense frings of freet, and quetter menchendia, where outside the there is are the platform with a of prophis the spane Pemphis serul on it. idging the freet east of the is a seconda bringe with occasional Templies inginizate The most platform at the west end is at about bightide level, but will removants of one about 0.6 m. bigher of same material. same material arguires a dif further east there eruld be called beaut conglomerate.

Flat congl. gent the tit In outer part of plantation young Morinda, young Pironia. ground cover of Triumfetta and Thursea. Further inward part of the plantation is nother open, with ground cover of young liaming Townfetty thearen pomen tuba. Openings are much overgrown with lighting tangled with pornoen. (no Wedelig seen.) Thuch of the sparse part of the plantation is This way some of the coconul trees are very old. One breadfruit tree and one lange Catophyllum sen. along the kagoon bead in a redsmally continuous sporse to dense tall serve a low front of Messerschmider. fisonia, etc. ne large contintre.

Deach a leef tonglornevents platform somewhat
higher than high tide
level is being cut away
by wave action and—
principally solution.
May me have extended
the length of the beach.

Romer Islet - see p. 2.

Burie Islet - ser pp. 4-6.

Small islet bet. Bruis

" Ujelang. —

Ford worth platform

with little loose

material no beacher

Scattered large Pemphis

trees with Compleis south

beneath.

Last islet on n. is. comer-Very wind-beaten and defoliated Premia serub

of 11 Twofile

1 wo next islets not visited - from distance look like Pisonia fruit or scrub.

heroles Islet Messerselimidia. Icaevola
with septums. Lorne
gravel flats around outside
with very sparse scattered
Leptums trifts. Boerhavia
tetrandan scattered in
these flats and in interior
of islet completely demoded
of all losse material.
Common modelies and
footy terms nexting
together on gravel flats.

Colean Islet seaward side. Remainder covered by broken sembol messerchmidia with some Pisania. Open areas, especially on inner corners, with Leftures and Goerhavia, some partly bar broken well. a few small coronuls. Soil rubbly with some fine gravel, locally some sand. Fille humis except locally under l'isonia treez, when there may be an inch or 20 of peat. Common moddies vesting on ground. White crowned moddies nesting gregariously in trees. Bleach-noch well developed along layour and west passage beacher. Plants seen: Coron furiana Sida Brenhavia Pisanis Septurus Messerschmidig fraevola

40 1952 Marshall Is. Polanilo poletcovered by Messersel

Covered by Messerschmidis semb with gew small Pismia trees. Three small commits.

Next islet eastward. Sparse of Messerschmike
server one living tree.
3-4 small coronuts.

Kilagen Islet -Langely an ofren cornut plantation with quite a few young tree. Leplums ground cover Polyfodium, Jomoea tuba. In inner beach, in front of house are two large Visoria trees and one Messerschmidia. On the southeast corner a give of small Pisning has been very recently ent down, leaving stumps 1 m. or more tall, which are already sprouting. The seaward half of the Aslantation is very space. Here a thick growth of

generally with a few boulders, becoming rochier outward, till at outer end is a hook. like boulder flat or glat-topped rilge about 0.5 m. lighe themson redge there is trothen mixed serul and by Lepturus, some gravel on the flat top. The west part of this ridge, along the west passage, is about 1/3 the width of the island. It is completely covered by a frest of small l'isonia trees, lined along the passage with a narrow fringe of Scaevola dith thin Kepturus ground ever. The Promia trunks are up to ram. thick and spinced 1-2 m. afrant. There is no undergrowth except occasional Visionia shrouts. The boulder are black with an algal film. There is much fine glavel mixed with pread between the boulders, especially in from the passage. The boulder flat merger no lagornward, both in

elevation and malerial. with the sand flat, but the Pisonia forest continues almost to the lagron.

Between the Moring and Rais are two small bare sand bare. each with a small comment tree on it.

Rais (Daise) / slet -Cornut plantation coon a roughly semicircular area west of center and extending out from lagon. This is nother open but with good caropy no undergrowth, ground cover of Volypodnem, with locally some Triumfetta, Morinda shrubs Canavallis toil a nubbly sand. brown to blacking with harmus, covered by an inegular layer of cordnet trash. Blemes more mility to servand.

46

On the lagron beach, extending from cornets to each end of islet, is a strip so me a more wish of sand covered by scruli. The me of there to the westward has been cut over and commuts planted, rather recently. along the west parrage is a 75 m. wide boulder flat covered worly mixed scrub freet, of ones, of messesschmidig, fewerola, guettarda and Pisonia, with Terminalia locally common. The county this scrube this scrub On the seaward side this belt is wider, but The whole motheast part of the islet has been cleared, and is now your up trastrict and very much tangled with lead branches.

yelang atolf Ujelang Islet almost this entire islet at least 3 mi. long, is planted to cocenity. at each end are small serub areas. along the slaward side for at least two thirds the length of the islet is a boulder rampart perhaps 8' high. Westward this gradually becomes less pronounced and sandy. This is covered by and very well developed belt of! fearola a fearol and messerschmidin Inside this is a more or less developed trough. then a broad ridge a blat of foulders. the trough and outer part of the flat are covered, under the commute, by analmost solid very dense l'ipturus Unichet, with some quettarda, inward sohe Atherinda Tangled with I pomorea timbo and in thinner office. Wedelia. In places they is benen material between The boulders.

1992 Marshall In Ujelang atol. 51 and trought the ridges attempt to accumulate very rody troughe organic matter in put, but sandya nietly. These gravel bottom still evident. extend transversely a thinket of an are of so but not all the way to the outer beach. mostly tremna, tangled The laguon beach, from with pornoea, etc. about to the distance her westward, is lined by a belt of limplies well grown wees. The from the village to the w, endy is an area that top of the beaching. is distinctly briggles (1- 2'?) than elsewhere. Her there is a low frest, mainly is little undergrowth. ground cover mostly Findri. white with quettanda, on a cobble flat. stylis, Carrythy and Volypodium. Where there are boulders about 1/2 the way from in this, l'emphis is village to west end is an my simpresent in mixture and where the comment Meyour with quettanda, some trees are much lower messenschmidig, etc. (younger?) than elsewhere. Here a solid stand of the plantation in this end is nother Pemphis extends from the sparse and is filled lagron in to the trail that with a tall sclub mino the langth of varying to a low the island. The roll. forest of heavoly, at least from lagron quettanda, l'isonia. bralf way across island, and Polypodum. is frue fring sand to a Lefth off 0.5 m. a so at least. fort varies from rubbly my vodis. to very welly. Westward from This heaward breach at it becomes nochies this end is sand, of again but there are which much has frequent cross ridges

54 1952 Marshall 9s.

Birds on ujelang atole.

Frigate birds - a few seen over some of the seen over some of the smaller islets occasionelly especially late in afternoon. Just before dark 40-50 were seen on a westernmost islet on windwarf reef. Evidently roost here. During storm on Kalo Islet at about 5 p. m. 4 we're seen calmly riding

successively by 2, then 2, then 2, then 2 more, apparently coming in from south. There sailed in one position above the islet for some

time then splided offaces to the east. Their places were taken a few minutes later by 4 mon.

During the day very few were in ovidence. In marshallese called "aak" ""

Crested terms - one seen in middle of lagoon to seen four community patrolled & lagoon beach near

one en Kilagen on lagoon side.

all seen flying.

Turnstone "kut but"

flock of 11 seen on Enimoni seanding

on Cinilate, lagorn beach

8-10 on Pokan on seaward reef, spansage

7 on sand flat in w. passage on

Kilagen I. Welling !

And on lagorn beach cipelang!

large flock on seaward reef flat.

Wandering tattler "kirig"
flock of seven seen on seaward
reef It Burie Islet.

I seen on Einilag, I on Enimoni

I on Kiriniyan on seaward vely.

3 on Ujelang, lagran beach

2 on seaward reef flot.

ristle Thighed curlent one seen on herotro Islet.

Three seen on Enimoni? slet on seaward reef.

The one on lagron side, on reasons seef, one on lagron side, at least 5 on Kilagen, possibly 6, on seaward reef, passages, and in grassy opening, in seaward in grassy opening.

Reef heron "kaga" " "kaga"
white mottles dark
Kilagen 2 Kalo I Ujelang #5
Moring 3 Kilagen.
Ujelang 2 Ujelang 24

One gray (not dark bluish, but similar to gray individual seen on face I with distal third of wings white. Two of dark please ones seen in interino plantation.

61

Chishens common. cochs called "kaki" hens "lolu" chieles "koen" a kon'

a few mandarin duchs.

Many prigs - "pig" er "pih" diverse breeds and mixtures.

rrats seen Rattus exulans, "kijirik"

lizands - "mataloj"

n name applied both to large
quen lizands and to shinks.

Det Houseflies alaundant called "rong" or "ron"

Cortugese man-o-was - "laij"

Coconnet crab - "baru"
natives insist that it climbs executives. Turtle - "ven" or "sven"

Coconut crabs, turtle eggs, moddig eggs all evolleg primitive sort of underground over - not wheat for mire than 1/2 how, not very affectively. Conut crab trasted on hot coals

all islets where They are a significant number of cocamits have been writed over for copra recently. Rather little burning of trash seen week Much accumulated and rotting.

Enimetry people brought here December 1947. heaves trust them houses of plywood & convegates iron, painted dark green, not very

Good coconnet plantation but few breadfruit, few graphyas. many siqual vines but rather frew squasher (crowbneck). some complaint that fewer fruits grow free than in Enclostok.

taken off by last field try-

62 1952 marshall 1 2. Ujelang atol 63 very convex. Ride, outrigger canves largely built of imported fring high in water. but with Beels of Pemphis (or hand drift-wood, such as a piece seen being fashioned. called "ibel", looks like malogany) (sample 63) Outrigger alway, on windred side, may at times ride out of water. Slewing partly tief by and & conter of where needed. Simple cross filtings of Pemphis, those where a twing is needed for a hoole of messerallimidia. Wood rollers med to slige carries up morady Katlen sails managed In 5 senut -ofres, snubbed around cos fitting, horbs, + most base. mast slanted forward, staged at forth ends of cover Mach by slifting lower angle of later sail formend a end of com and reversery shant of Carre very narrow + deep,

7:70 p.m. scatteres male clouds, gentle breeze wet bulb 24.9° dry 25/9° C.

11:40 p.m. more or less clear overhead, heavy clouds around most of horizon, up to 30° gentle breeze wet bulb 24° dry 25:3° C.

7.40 a.m. slight overcast, clouds on north horizon up vo' wet bull 24.4° dry 25.4° C.

7eb.14 Worths Islet camps

8:10 a.m. heavily overcast

gentle breeze

wet bull 24.8° dry 25.5° C.

12:19 p.m. lightly overcast

very slight breeze

wet bull 26.6° dry 23.4° C

11:40 y.m vey lightly overcast.
slight breeze by 25.9°

Feb. 15 heavily oversast almost ealm wet bull 24.9° dry 24° C Bag sample # 64 - digt seeds from Worths atole

Gag sample # 15 - litter
from ground in soulamerbeaevola scrub frest
interior of mother section of
Wortho Islet - for land shells.

Vial #97 - bottom layer miscellaneous spiders from Wotho I. 3 sp. of ants from a stress Morinda bush in coronut plantation

Vial #93 - ants from large terrestrial anthill in opening in sent frest, w. section Woths Polet. Other animals from faulamen-feavola sout frest from on and under Eylang-covered sticks. fine snails (except long yellow ones) were on the sticks, yellow ones were on the sticks, yellow ones were on the sticks, yellow ones in good surface of ground.

Woths atolp marshall Is 1952 73 prostrate, flowering 34234 Vigna maring (Burm. &) Merr. c branches erect; flowers 5 abundant breakly yellow. covering ground in plantation near lagron beach tufted, ascending of 34 Eleusing indica (1.) 6 zertn. erect. occasional around dwellings shoul 3 m. tall. 36 Pseuderanthemum carmitherii (sean.) gill whenileanes green: flowers white with maron planted around house dotted throat "wut ting" superficial or slightly 37 Polypodium scolopending Dum common locally in ground cover in plantation, buried, fronds erect. climbing onto bases of commut trees. branches erect. 5 38 Thuanea involuta (Forst.) Q. ds. common in ground cover in plantation near lagur beach 39 I pomaca they (Schlacht.) Don twine, extensive, forming mats and about Common langles plowers in plantation in ground white wilting in cover and climbing in undergrowth. afternoon. 40 Digitaria microbachne (Pres) Henr. V evert tufts orrasional in plantation should 0.4 m. tall, leavergreen, 41 Sida fallax Walp. flower range with only planted around houses The faintest thuch of sportaneous in plantation red in center.

Wortho alog 1952 marshall Dr. on erect tree trunk in forest 55 Elsinos in Grant Lead carrythy filiformis Vial # 99 - bottom layer small ants from line Pandanus trunks. top layer - larva and orb-webver from messesschmidis on beach at west print of islet.

Woths atold 1952 marshall Is. 79 Feb. 14 - Worths Islet vermillion beneath. 34256 Polyporus cumabarinus 5 on rotting cocumut log 5 57 on old stone-lines path on ground and on stones bluish green. 58 on surface of mud in bottom of weedy tars pit peppeny odor. 5 59 Fimbristyles cymosa R.B. locally abundant in mont bottom of tare pit 60 Cyperus oderatus L. Gozally abundant in Cyvirspenny merkusi: (Hassk) Schott muddy bottom of ale bI)MINIST plants 1 m. tal, sterile. weedy tars prit 61 Cyclospeng chamissonis (schott) Men. Islanted in maddy taro pet Le Ochrosia oppositifolia (Lam.) K. Schum tree # 14 mitall, pure stand over large 15 cm. Thick unbranched to near tolig leaver glassy; perwers white, fragant; but immiliano, yellow and the will Thin filest twhen right, stones abundant on ground, cleaned by insects and crabs. At Homer on nothing masserschangidia

80 1952 Marshall In. Woths atoll small spreading Pisonia grandis R.B. tree, partially leafless. Common in mixed flowers green, very singly falso scattered fragrant. in other types of forest. 64 Fornes on notting Messerschmidia 65 log om boulder flat black nødules on coral sand in opening Bag 66 - Purnice from Beach + v pieces summed by roots. Bag 68 - soil sample from top 8" in goest. Bag 6.7 - fing material in Ochrosing thest for land shells. teb. 14 - Wotho Islet, west 66 Carrytha filifornis L. stems green to yellow, common, pararitis on various shrubs This in fearnoly. 67 messerschmidig argenteg (4) Johns. small tree 4 m., leaves common is along and flesly, silvery green; near beach. flowers white flagrant.

Wotho atol marshall Is. 83 1952 tree 4 m. tall, sterile. 34268 Pisonia grandis K. B.T. with 5 mall spreading tree common in 69 soulames amara L. 5 m. tall, "flowersh whitish "kabigiling" common, dominant in witter. grants of interior main stem prostrate 70 Trumpetta procumbens Forst. franches ever. common under trees and inoffen small openings. tufte with long stolens. 71 Lepturis refrenz (Forst.) R. Br. dominant in openings tryted 12 timbristylis cymosa & Br. common in Lapopenings flowers yellow. Wood not biller. should I'm. tall, starile. 73 furiang maritima L. common along beach 74 Jerminalia samoensis Rech. v rare along beach fruit white, fleshy. 75 Scaevola frutercens the mill der very common along beach. also in sembforest. show in tall, blowers 76 quettarda speciosa L. white, fragrant; dried by common generally crabs, very abundant on ground. Vial 102 - arrimals from beneath same log as Vial 101. Vial # 100 - insect, attracted to light, around camp. Vial 101 - earthworms from erident rotting Delivoria log in Orthoria frest - actually burnowing Vial 103 - earthworm from soil in count plantation. Vial 104 - termite caught flying. Alie, cought appearts around tars pet. in word.

Vial 105 Ont weavers
from mixed frest and
Oslinosia from ther
animals from plan of
mixed frest, under

Jan #9 - fmall hermit crabs attracted to Personuts around camp. Kange red one caught journeying toward sea, apparently to hatched infrienter in jar may be recovered from sediment in bottom of you where they settled in large number on addition of alcohol. Lizards caught by native boy - green ines seen mostly climbring trees, skunks mainly on ground. Two large hermit water in cherecloth are from near center of Wortho Islet, inhabiting coconut trash probably distinct from large red species. funderal from same place - purple in color. Claws missing. Gridging by hole, must be common! all over islet.

arrow saw I dank phase reef heron and white one, the a in plantation, also a britle-thighest embers which lighted in an opening, close enough to be positively identified. Two turnstones on lagoon beach.

wotho atole 1952 marshall 1s. 7 eb. 15 - Witho Islet prostrute stems red: 34277 Boerhavia tetranda Forst. leaves white beneath. in scrub sandy soil
78 Crinum procumy coney coney Rom nech 3-4dm. high; scapes very slightly compressed, small colony and edges irund; flowers abandoned two pits in white with maron center of island framents and styles. tree 12 m. tall, flowers 79 O chrosia oppositifolia (Lam.) K. Schum. "hejbai" (word sample) pure stand over large area seaward of center of island tree 12 m. tall, conspicuously 80 landomis tectoring Park. proproved at base; rare in ochrosia frest fruit yellow, from flavor. on outer third of islet, "bop erwan" not eaten. bluish green. near center of islet black crust, frealing and curling. on surface of soil in spranse scrib front of foulamen, teserola, etc. land-gray color. 83 Curicularia on dead branch of Mosserschmidig

88 1992 marshall Is. woths total atole 80 Partial 20th profiles Layer "2 not too alrupt thansition was a Feb. 15 - Worth & slet very compact light from Ochrosia frank just outside middle brownish gray fine (10 PR - 6/2 67/2) fring of islet (directly back of church) subble: only duy Partial profile # 69 about 8" into this. Two layers: ( famples for culturing fungi and bacteria). fager"1' 0-1' dark gray (104/R-4/1) fine nubble (says (9-1) Serul on west tod of the islet varying to fine sandy Soil sample 71 - surface loam (sample 69-2), the layer of volites or two not arranged in prisolites 2:- 3 mm. dian. , definite layers through about like shot, I"deep, It the loan tends to be of fine light brownish lower in the profile. gray (10.4 R'- 6/2), from (profile almost dry), the rubble love touth under young counts. the evan somewhat Partial profile #72 compact but frable same locality, in very ( sample for bacterial and fringal culture). Trans rather to small offening in serul! ( very spain cordnet plantation Layer + 2. 1.0-3.0'+ very with beaevola simb pale from (10 YR - 8/4) sand. undergrowth) quite friable (sample #69-3) Three layers: (profiledry) Partial profile # 70 (lagornon) Layer 1 - 0-0.3' gray 5 gray-brown (10 YR-5/1-5/2), loose from # 69 near edge of plantation) orbitic structure, silly Layer 1 - 0-1,0' dark gray texture, many roots (hample #72-1). Och varied in places with Layer #2 - 0.3 - 0.5 light gray brown (10 / R - 6/2) small lenser of light silt the compact but colored sand. (Lample # 70-1)

fluffy when crushed between fingers, few living wolf, some dead mer. (sample # 72-2) Layer # 3 - 0.5 - 1.8 (+ same material probably muit deeper - felt same as fran as machete reached into it) pinls (7.5 YR - 8/2 - 8/4) loose sand, few roots. (tample 72-3) (sample for franque 4 bacteria culture)

Vial # 107 - flies attracted to pandanus fruit # 34 280 also beetter and ants and mealy bugs unhabiting this . fruit large black ants fratrolling neighborhood in ground.

Vial 108 - earthumns from comment trash at edge of Ochrosia Grest. (many in wood of very rotton count trunks).

Vial # 109 - animals from same coronut trunk as # 108. and and termity in galleries in close proximity. "air of scorpions seen, but male (?) escaped. Forger cochraches excepted.

golden Plover - "kolej"
several seen in small
openings in coronuto,
around village, andon beache.
Leen with turnstines.

turnstoner small flocks of r-y seen on logoron beach and on bay.

Wandering tattler - one seen on boulder beach on the west friend - end of the islet.

Bristle-thighed curlew -O scasionally seen Heging, usually very wary! feem to frequent small offenings in interior as well as beaches. Two seen at chose range in openings. Large droppings filled with stones from Leaevola fruits seen frequently along blackes and in openings, probably made by curlews. Call beard frequently day a night. Legs a blie-gray color.

Chichens "van"
Duchs "duls" (mandarin)
Cats

Rats "kizirik" R. exulans, guite common in serul and in plantation around coconut trash

Coconect crab "baru" big brown hermit crab "oom" scorpion "kallep"

96

small admisture of landones and Premna. Ochrosia sedlings abundant. Here the soil is a senal nubble. pieces rather small. Beyond this, again a fine gray soil with same visit frest as on west point, with Intsia added. This changes close to the channel on the east become to sparse with more coconite they become a scrib of feaevola huvany, some Terminalia and Messorschonidia. Outer fringe of this mostly furiang. gravel flat beyond this is bare, with a few Luriana seedlings clore to scrub, many stalvala seedling frutter out in channel. fmall Islet beyond narrow channel has a amall dry coconut grove, open betneath, surrounded by sparse serve frest of theseichnide, quettarda, Pandanus, and Levevola. Very sott

Back of this and of houses in village is coconut plantation with a mat of tedelig. Back of this is tangles with the showly of, morinda landamy etc. tangled with Westelia, Canavalia, pornoca tuba ex In village ground cover is Vigna, Reptures, Thursen Cragnostis amabilis Fimbis. large breadfruit trees! Village consists of a long stone-lined grath with houses at very wide intervals on both sides. Those on lagorn side are upon the sand ridar. Back, along the sandy reentrant is a serub belt as on the other side. On southwest shore of bay as ing belt of small sand dunes. On exact south side is a sandy belt with seattered small

boulders many of them

of Prolithm. The beach

along the southeast side

here is somewhat shingly.

etc.

uja atol 109 marshall 2s. flower heads brillians 34294 Gemphrena globosa L. - magenta. 95 Pseuderanthemum carruthersii (Seem.) guil. van. strub 2.5 m. tall; leaver green; flowers white with planted near house counthenis. maginty dots run logether in throat. small tree 4 m. tall; 96 Plumeria rubra L. flowers white with planted near brown nellow centers, very - fragrant. tree 5 m. tall, sernewhat 97 Hibiseus tiliaceus L. chlorotic. one tree seen in village 98 Centella asiatica (L.) Wil. stems prostrate, losal in grassy places - rooting at modes. aling the path small tree 5 m. Call. 99 Piplumis angenteus (Fort.) Wedd. one tree seen in comment 34300 Thuanea involuta (For,t.) R-25. prostrate mat-borning. with erect flowering. branches. common in grassy places sprawling aromatic 01 Wedelia biflag (L.) D.C. hert; flowers yellow. common undergrowth in eccount plantation Cyviospeune neukasi: (Hasski) Schottel. or Cytosperma chamissoniz (suhota) mon DHN.colsn (45) 6/1958 cultivated in small wet much - filled fits. chlorotic shows 1.5 m. tale; 0) Citrus aurantifolia (christm.) swingle? one small bush in moist pit. showly 0.5 m. tall; flowers 04 kida fallas walp: crange with my trace local in opening of sed in center.

uja atol marshall Is. spreading trifts 34305 Tragostis amabilis (1.) V. LA. V common along traths Of Phyllanthus minuit. common along paths and about divellings. prostrate darly 07 Cuphorbia prostrata fit. purplish green. vermon along traths prostrate, fleshy, 08 Portulaca oleracea L. honze-green. common along paths 09 Eleusine indica (L) gaertr. 1 common along paths and in waste places tufts 10 Cenchrus echinatus L. locally common along trathin and in waste places sterile, young plants. 11 Crinum rumphii Men. ? planted about dwelling

Feb. 16 Boch Islet Vial 110 - Halobates collected from stern of ship, anchored just outside Bosh Channel attracted to strong light at night. ( see Macheil #922 for other animals collected cut same time).

Feb. 17 Bock Islet

Vial III bottom layer, art. from colony at base of coconut trefunder dry back at top of worts. top layer - insects attracted to lights in camp.

Vial 112 bottom layer cockraches in humer filled soil in Pisonia forest. top lager - insects attracted to lights in camp.

Vial 113 bottom layer ants from colony in very course rubble in Prioris frest. top layer - ants and termites from same dead stub of living the messerselimities tree on servas beach.

Vial 114 - bottom layer orb weaver from first and plantation, other animals from a set standing rotting Pisonia sapling trunk with loose back, in l'inania prest.

Vial 105 24

Ugas atoll

Via 115 - bottom layer ants from line winning up and down quellands trunk on math beach.

Vial 116 - bottom layer anto from table in camp. this and spide from Vaerhavia flowers. beetle and fly flying.

Ujas atol 117 1952 marshall 2s. Feb 17-18 - Boch Islet 34312 Xylaria on sticks bying on flow 3 13 Xylana on streets lying on 14 Thessersehmidia argentes" tree 6 m. tall (other much taller; leaves common around pringley selvery green, fleshy. of island, this on outer breach. true 8 m. tall; leave 15 morinda citrifolia L. glossy; (wood sample) inside commit plantation tree 8 m. tell; flower 16 Guetlanda speciosa i. white, fruit immature. in mixed from tinsely ( wood sample) outer beach, common. tree 20 m. tall 25 cm. 17 Intsig bijugg (colebr.) x 5/2. thick, tall trunk for from outer beach, branched only near top; Jeen, upper ones mot mature; steril. (wordsports) Virming groves. showle 2 m, tal (others y 18 healvola frutescens (mil.) Kr. taller; flowers white, very common around fruit robite. periphery of island, especially along of the beach liang, stems to 3 cm. thick 4 19 Canavallia mercanfig (3.C.) Pigu clubing to top of trees; common in fismin frest flower magenty; frods immature. prostrate, forming is to Boerhavia tetrandra Forst. thin met; leaves while Beneils, occasional colonies or order flowers pinks, stamen 2-4 in thin place in woods in same plant.

rijae atolo 119 1952 Marshall 11 frostrato with erest flowering branches; flowers yellow. 34321 / numfetta procumbers Forst. v vecdsimal in edger of mixed frest along duter beach lead-gray in color. 5 22 auricularia on dead trancher of living messerschmidig cause assumption of 5 73 albugo platensis emdensed erect brabix granasition Boerhavis tetrandy of infected branches. 5 24 on Alessenschmidig trunk, mixed freet n quettarda Trunh, mixel frest 27 Fimbristylis tufts, leaves not stiff in coconut plantation on sandy nubble, north end of islet skigere prostrate, 28 Polypodium scolopendia thum.f. v sandy rubble in coronat plantation, north end of islet common breatly. leaves pal beneath; blowers greenish. 29 hupholia chamiosonis Boiss. local on sandy places in end of islet. stems yellow; storilo. 3 30 Cassytha filiformist. very local on grassy spot on north end of relet 6 31 leiminalia samolensis Roch. the sprawling tree 6 m. common award periphry tall: fruit immature; (wood of sample) of islet.

Ujal atolp 121 1952 marshall Is. tree 8 m. tall; steril. 34332 Cordia subcordata fam. small colony in mixed mest on s. e. come of islet, on boulder blat. trep 8 m. tall; flowers 8 33 allophylles timorensis (D.C.) Blume v white; fruit red. common in mused frest ( round sample) en brilder flat. tree 5 m. tall, twister. 34 Cemphis acidulg Forst. gnarled flowers small group trouble passage beach. white. [word sample) en boulder flat show m. tall; 5 35 Luciana maritima h. flowers yellow. one bush shlagoon beach, on college of Tother 6 m. talo (others 25 m.), \$ 536 Pisonia grandis R. Br. by & o some have old leave, 1 1837 Pisonia grandes A. Br. others young new me, dominant is codominant flowers fragrant. tree on boulder flat 38 auricularia andersten Pisonia sapling cranges powdery. 5 39 Trentepohlia on desid trancher of Pemphis expresed to sea on rubbly ground in evenut plantation, local. stems flesly, scarcely bronzed. 41 Fleurza renderalis gand. common on nubble flats in evenut plantation 43 Xylaria common or sticks on floor of l'ismia frest

Ujas atoll 1952 Marshall Is. 123 young tree 1.5 m. tall; stail. 34343 Calophyllum inophyllum L. single greant on west molh passage beach single slampeled, with 4 44 Carried prapaga L. eroun of leaves; flowere several small dumps near cream-white. in center of island rosette 2 m. Cell; 45 Crinary rumphii Mer. scapes dried up. small row in commet plantation not francom lagron beach, partably 46 Pandanus tectories Parks. pyramidal trep 10 m. tall, fruit heads common in coronat rather small. plantation, this tree at top of laquen beach Det 19 Bock Islet, Feb. 19 - neef flat in Boch Channel, on to under sides of loose boulders. Taylor 1955) soft, fleshy de aple like from esses convex distally, 47 Caule fra racemosa (Forssk.) J. ag. (det. underedges and in ever between boulders, below Taylor 1955) bright yellowish green. 486 Caule fra serrulata (Forssk.) J. ag. (det. 486 "under edges in ellips on bare bottom, and between stone, below low tide level. whitish green. 49 Halimeda common mbar bottom and between otmes, below looked green, curved planes. Taylor 1955) 50 Microdictym okamurai Setch. (det. green, featherlike trancher 5 | Caulerpa arenicola Taylor (dit. Toylor 1955) from creeking whizeme below lowlede

rjal atolo. 124 1952 marshall Is. 125 inidescent green 34352 Dictyosphaerig sp. (det. Taylor 1955) & rose underrocks, belowlowted Heydr. (det. Taylor green, tuft-like in felt-like. 1955) 52 Cladofiles 2 53 BRnipidiphyllon reticulatum (asken.) common unde rocks, betweentides .54 Cladophora etc. (det. Taylor 1955) common under webs, betweentide darligreen, trerque 55 Valonia? utricularis (. ag. (det. Taylor 1955) ree unde rochs between tides rose frink, tesselate 556 Partithon only des (Heyd.) Forlie Es. 157 Prolither of the Colon for common on water below low tide lead Feb. 19 - Mjas Lagorn, green 58 Cladopling? below water-line. 7eb. 20 - Boch Islet mostly rather dry. 59 Lepture repens (Forst.) R. Br. small fratches on north & salt end of islet prostrate with evert Blowering branches, forming losse mat. 60 [buarea involuta (Forst.) R. A S. J large areas in the more cleared parts of communt tree 15 m. tall, steil. 61 artocarpus altilis (Parly) Fost. small number of trees in central frast of island. liana, stema pale 62 pornove tuba (Kehlecht.) Don gray, twisted to right, very common liana lealy portion in canopy in I Isonia and muxed of Gerles, plowers white. forests.

Vial # - Caterpellars from messerschmidia. Spide or bushes. ands coming from hole in Intrig trunk Flies from around upper brancher of felled Visoria filled with bind - nests and grand -brandres badly smashed in felling.

Vial 118 - animals from floor of Pisonia frest marry under sticks y wells. Tupilleds and pall smails from under sides of rooks, Tomatelinid from frugges caread sticles. Political from soil in must

Vial 119 - Ensects from general collecting - flying accidental, etc. Blatlis from soil in mixed fruest. in mised frest Sphing lahva from leaves of homoentuba.

Vial 120 - Caterpillas from Messerselmedia, grasslipper also. atther insects from sound lights in carry.

Vial 121 - animals from under files of coronut trash - all except smails, crab, and large broken cockroach from moist track in depth of mixed frest. snails, cochrouch and crab from mibble beneath dry frile near lagoon shine - found 4-6 beneath rubble surface in interstices between pebbles.

13 ag sample 89 - 7 eb. 22 shed on Ebeju Islet.

Vials 123, 124, 125 - Blattidae from hold of 40 foot schones would by you people collected at ujue actol, 7 el. 21.

to ligas atolp 128 1952 Marshall 9s. 129 Feb. 20 - Book Islet diffuse. 34363 Digitaria microbachne (Prest) Hem. common locally in comment plantation coront plantation patch onfirmal gravel in on coconut hushs in plantation 5 66 Broken in Pironia Great on franches of Personigter 5 67 an Personia root in Prisonia Joseph hoil sample #81 fort sample 83 surface maleral on Surface material on an ared near center of nubble where comment trush west frant of uset. has decomposed for a long at least 1.5' deep, becoming 2-5" thich, black (10YR-) gradually mixed will subble downward. fleched with light grains, Nach gray (10 YR-4/1) losso much humus, quite fine sand. (rample for mold + bacteria alle mount when collected. I sample for mold a bacteria foil sample #84 culture also). furface material in part of comment plantation near Soil sample #82 lagron rather well cleared. hurface material from bottom 6" deel mubble. 6't deep, on rubble, black (1048-2/1) mixed with lighter grains, crumbly Danks brown (7.54R-3/2) fleshed plastic stated I sample for mold bat also) love, selt mixed with coars sand and fine rubble. ( sample also for mold and bacteria)

Uyas atoll Marshall ) 1. 1952 Polainels Islet Feb. 22 - small islet boil sample #85 -2. of Book Channel reen material accumulated Pisonia frest rather N. 152) under pile of coconut track sparse, inequalar on the rubble flat in beight, on boulder flat. mixed from multitudes of bunds partially decomposed. Of Fairy terns, common ( sample for bacterial and moddies, frigate birds, mold also). white-capped noddie, there nesting gregar-Jan # 10 - small Bingus (?) wasly in Pisonia from Woths atall, center of (and rarely Verylis) trees. Witho I slet, mapped in flight peat accumula. chresecloth. Found in coronat track. tion under the some gray crab from Bock Islet, Pismas - covered Upae atolf found in from the sondinary by a thru stain of quanson surface leaves. land crabs from commit famples 86, 87 and trash and boles in rubble freat with material in mixed frest and edge of included in lower part plantation. gechos from Thomas In 486 (2 bags) Ruah Islet, under back and in commutarils. il conholidated sand! Jan # 11 - shinh and from In #87 are partially tree ligard from the stander altered pebbles. mixed mest. Sample # 88 is of fragments shore clab found in hole chipped off of grans - covered in the Merserschmidia boulders hishder a tree trunks. where there are modely Hand cross to purple hermit enales nests and where Frigate I red hermit crab girds wast. Boulder several frushe hermit crabs, stained while but not all from exemut trash appearably roftened. Long gray crab from hole in lisoning trunk. are originally of soft material. Prown Hermit crab in exemut shall - tran

Mjal atoll 132 1952 Marshall Ls. 133 34368 Kylania Mixed Great Feb. 21 - Breh Islet on bank of trees in mixed frust, layron side on small quettarly tree on dead corront trunk on living coconut trunk 72 on living corronat trunk Feb. 16 - Vijas Islet on barhaf breadquit tres in village 75 on patt and stones bordering frath in village the Feb. 22 - Ebeju Islet tree 10 m. tall; flowers 77 Ochrosia oppolitifoliq (Lam) K. Schum. ripe fruit bleshy, som blackering. derninant, almost exclusive tree, in frest

Ujae atoll marshall Is. 135 Feb. 23 - Rua Islet (s. of Ebigin) tufted, with numers 34378 Leftures refrenz (Forst.) R. Br. openings in mixed forest in depression in center of islet black. crust on coal sand in ofrening in mixed fired, interior of islet on barb of large old messerchnidig trunk. and phosphatic cementation Sample #90 - ( rbag) beach some quano constantly noch broken from auesta on deposited but no lagron side of islet. accumulation. below high tide level for study of possible case hardening Lamples 92, 93, 94 layers of flat bedded fample 91-1 - peat from mixed forest in interior central depression, depression, under Visinia esposed at surface. and Terminalia trees. for comparison with pt - 9 tests (fruscy) ranging #91-2 and also study from 5.3 to 6.5 from different of possible phosphate to they bariation. dementation under former conditions. fample #91-2 - prices of bample 95 - beach sand where layer of sandstone (vest of sample in conas hadling brend) directly beneath freat I for study of posseble alteration

ujas atall 1952 Marshall Is. 137 Feb. 23 - Ruay Islet sand and gravel, lowery on the north end. Varalle to the layour beach and Jan = 12 - me small in 30-50m, separatey coconut crab; a numbe by a shallow trough a of her mit crabs of several most separaled, is a Effecies from under rotting broad low rounded ridge of sand Vial#126a - bottom layer ants from running the full colony in ground, tol layer so length of the island. ab weaver from undergrowth - Rua ). the unner beach of of the length, is a strip This islet is of clean of freat bedded calcareous white sand and gravel sandstone exposed which brokes around at the surface, badly for a short distance at broken up by true roots The south end and very ( samples 91-2/-94). This 33 much at the north, here and the strip of course & running about half-way sand and fine mibble of down the seaward side, broad shallow depression, where it becomes a to colob or boulder beach, this bounded on seaward running the next of the sed by the seaward way along the seaward ridge this in the scritt side, to the southeast corner of boulder-noble mixture, where there is a short in north of fine mobble stretch of sand then and sand. Over the whole on the south and a stetch to the middle of the rolet of broken slabs of beach as further, so are thickly rock, filed against the scattered boulders of breach is there a definite all sizes. On the sand ridge is l'isoniq frest, in the boulder udge. Elsewher south part largely replaced the peripheral ridge is of

38 1952 marshalls.

by coconut plantation but with lisoning trees in it, mostly nather small. This comes to lagrown beach but edge is filled with second great The corner grove and I sesoning front have no undergrowth. Pismig oppre has no ground dover. Soil has grans stain but no accumulation. Fittle peat esceptionally Where found it seems very dry and perhaps to braine been formed under different conditions. Most of peat found is on the edge of the mixed fromest just to seaward of the sand ridge, but under Visonia trees. grund cover in comment give is of very sparse Brenhavia, at s. end patches of feptures. South passage beach -Jealvola-Terminalia semb with a few Messerschmidia trees. And Mentalit west Lagron end of it a book of sand beach. Center part

Ujus atolo 1952 marshall In. 143

On the seaward side is a narrow strip of

mixed freed, messerschmid

Siaevola allophyllus, Pisania, etc. Inside this on the south end is a

very well developed

Pisonia forest with scattered very large

ald trees, one measured being o' diam. breast high

and 15' at base. One felled by the natives was about

30 m. Tall. Between there old ones are well grown

younger ones. Blinds do extremely abundant in this front, especially

nesting white-crowned moddies, and guano

on the ground. Peat is

and common locally under the larger l'ismita

trees 7-5" thick ( see p. 114). The center part of the

outer balf of the island Intsia bijuga with allophyllus,

The Intria trees being about

rom. tall. Little or ho undergrowth eitherin

Visoria or Intria forest.

The inner half of the islet, in the southern trant is mixed freet with events scattered through it, with a fratch of l'emphres on the passage beach large ald, trees, very troisted and gnarled; mixed forest - Messerschmidia, allophyllus, Terminalia, Pisonia, etc. on the unner side, varying to pure Cordia and price I isoma. Agodin end in Commit gold The undergrowth in the part where there are coconuts in of young exemuts and is in places trail to penetrate. The other end is coconut plantation locally with thickets of young evenuts and some grandanus morindas mean the center, a small grove of breadfuit. ground ever in the grove is grass, to in places Digitaria, in places Thursday, slocally on the north

152 1952 marshall &. Teb. 21 - Polainuls ) slet (just s. of Brek) This small islet is of cobbles and boulders, bigher around edges, less som lagoon side; mostly a l'isonia grove of uneven height; clump of comments travaid inner frant of center. Scaevoli serul on seaward end. mixed scrub, Scarvola and merser selimidia with clump of Pemphis on inner end. (see (1.191). Some patches of Polypodium on growing near inner and, Veripheral scrub firest around I isonia grave is of teaerola menerschmidia, Cardia, Terminalia fueltanda, with formore tuba In coconut grove an undergrowth of count forme plat accumulated under Pisonia, ( Lee p. 131). made & pH tests in subsurface layer of this, pH range from 4.5 to 7, about 5 of tests near pt 6 (Trusty). Fru

teste of dry quans on leaves
all gave pt 6. One of
bresh quans had too
much oil to give a good
test. 15 tests of quano
on back of trubbs and
large branches of
listing where frigate
birds rowst + white course moddle

10 pt 6

4 pt 6.5

1 pt 8

Islet n. of Eliju - seen from south; well worsted mostly messerschmidia, scattered coconuts in south fourth near lagon, some Visonia arring and seaward of there, some beavolg along top of lagoon beach. Lagran and south passage beaches very brigh, of sand' and gravel. mailiags there are four parallel ridges longitudinally, becoming younger toward lagren! Big Pishis all on seemd one from sea. I may one unvegetated. He was achore.

Ujas atoll. 1952 Marshall Is. 155 Bananas, papayas and Information given me on squashes ("pankin") were Feb. 22 by Chief Enti: growing here when Enti was small boy. all finds eaten except neef heron which eats ruts 2 /2 marshallese names from Small purpoises eaten. Enti: Breadfruit as baked fraing tern - mejan either underground or on booky - balo fire, a boiled heaven common noddy - prijuala is march to July, which 10053 farlite evened nodby "kavij" "kavij" "kavij" is the calm season. a 2 2 2 4 9 In windy season there frigate bird - aak is too much salt spray, tattler - birij no fruit. Storms come from southwest, 2 193 turnstone - kontrak turnstone - kut kut never from northeast. Pandanus bears fruit crested tern - "këier" all year around; planted ( not seen but ident. from by cutting only, when Entis description) grown from seeds bear hermit crab - oom small fruits. Those comment end - barn vars. used for eating (climbs trees, sometimes produce inferior leaves. lives in coronut trees) That used for leaves is names from others: sterile, is planted close frightebird - aak together, used when red hermit col - remer plants are small; does scopin- meripip not grow tall even in years. big black aut - balep Vandanus fruit eaten large spider (lyrosis?) - parm both cooked and naw. pumice - tilan l'esple here produce 30-40 ( used for sharpening hising) tens copia per quarter. I large piece of black seria () my rice, flow sugar, biscuit, used for dies Truspose on Back ) milk, butter, offer, tea, canned meatteb. 28. - flight in PBM from Kwajalein & Utirih In photographing islets.
(NII project). Miscellaneous

Filief - West end large islets well planted to coconints. Imaller ones eastward along windward reef litave mixed semb frest. Many bare black linear islets across neef. (Study on vertical photos odd islet pattern at this end). Islet water on young & the stations show a definite sparse and barren aspect. Pisonia and perhaps other trees semi-leaflers, ground cover is glantations krownish green. Lealvoig bright yellow- green, Wheserschmidig flue-geen ( ftudy on verticals peculia reef patterns around Fado-Filries passage.)

Jems - l'ismia Valmort leaflers. Breakers on n. w. side of reef. cross channel grattern on reef very noticeable - similar to that on reef outside Lado-Dibiel passage.

ailule Conspicuous coral patches unside deep parrages. Comment plantations look dry and barren. canopy rather incomplete. ground cover hour. much burning sees of more, evidence Pismias almost leaflers. Boulder ridge on western islet about egreal on both side of western print.

Itinils -The western grant of the south need has me lithothamuion ridge. Reenvard islex has a broad strip, almost bee of coconuts through center.

West reef har many elongate "incipient (?) islet." Both send-bars, m. and a. are fixed by strips of feach-rock to seaward.

Jalra - sand barn m.e. part not held by beach rock, is accumulation or innermost grant of broad tract of reef ( covered at brightide?). hand islet on east held by V of beach rock. Leeward sand bas held by strip of bearlinger. Un Talia Het coronuts are practically all on unner 1/3 - 1/4 of, islet. Vising gove about 2/3 of way from outer boach. Onter yz of islat a nother uniform semb, except that to the mostly it has quite a lot of messessimidia and to south ssattered from Visonia. Dominant in mixture seems to be Kenerola. White "spieder branching on photos is l'isonia.

like cross ridges on seestand windward side of western projection should be investigated on ground. At least four of leeward deep passes and that on windward side e of kundel liave islets or reef patches inside them.

Inward curving brown also common on common of leeward islets out sides of these passes.

MI project rolls shot on this trip.

MI-44 Lihiels MI-45 ailule, Utirile MI-46 Jemo, Talra

Mann & ailinglapalap already some this quarter.

Marshall Is. ujus atoll 165 March 2 - Elign Islet Shing show 4 m, tale, 34383 Ximenia americana L. Ny older leaves fleshy; and two small colonies sterile, "kalikelik", seen along lagron breach March 3 - Elsing Islet Belender trep 5 m. tall. 34 Soulamea amara L common in mixed freet in south part of islet. shrubs, diffusely 85 Sophora tomentosa L. Is branched and tangled, small colony in sur I 4 m, tall; flowers yellow. near south beach of main frant of islet. Vial # 100 - bottom layer, Jan #13 - hermit crabs in paper from Kwajalein Islet animals from under bank of Kungalein atolf, Shinks dead portion of Pisonia trunk, I from Wolja Islet, Upas atol Wye Islet, Mar. 3, in Ochrosia Great Large erab from middle layer - 9 nsects, and 13/Englamity Islet, Ujasatoll, \* spides, general coll, Wating Islat, I running around an sand may. 4. flat above high tide level. Vial # 129 - Ebeju Islet, mar. 8 SI Vial # 130 - bottom layer bottom layer - ants from colony in 35 in ochrosia front (notilent Planaria) axil of evenut leaf. tol layer from landanus - all in top layer - general collecting which were on dead leaves on ground ( columned ? orth Eliju Islet, march 8. 18 Jan#14 - lange gray crab on dead firming trunk in I found under love back of rollen coronut log and many Oshrosia forest. 19 M small hermit chabs from porgranound freshly cut coconuts and \* 14 in and around rotten eveniut by log - ally (Erlie) Islet, mar. 10, 1952

1952 marshall ds. Vijae atall March 4 - Wortjia Islet top of standy lagoon beach 34387) Intriq bijuga (colebr.) Kty. Densely branched round common along beach, crowned tree 10 m. tall I those in frest twice (dominant in places in forest inland) as tall, umbrella-erouned); leaver dark green; sepals pale green, petal purplish to white, tree 5 m, tall; flowers cream-white. 98 Terminalia samoensis Rub. rare on lagron beach, ( common in scrub along fruits red when rips. passage beach) same - coral gardens just below low tide along layon beach large loose clumps, grayist green. 89 Halimeda very common a sandy and voly bottoms between 90 Hali Udotea indich A: and E.S. Supp (det. Taylor grazish greer. common in enerices and between enal clumps 91 Litholhamnin epiphytis on Hatimeda 92 Herposiphonia tenella Nag (det. Taylor 1955) red etriphytis on Halimeda 93 Udotea indica A. and E. S. Stepp (det. Taylor 1955) red 94 tentroceras claulatum (c. ag.) mont. (det. Taylor 1955) blackish, red beneath surface epithytic on Halimeda of colony, producing abundance of gas bubbles.

170 1952 marshall Is.

found on the windwarf side of an islet on the windwarf recf. This belt is lacking on this belt is lacking on this last of this islet.

Coconut plantation mostly way to sea, further north half, near center extending of wind half way a less. Name on north end for 100 m. or more within a small patch on seaward letter in side near north and and within another on southwest corner.

around outer periphery
of south bralf is a belt
is m. wide of Merserchmidia
forest, rather tall, with
scaevala in edge; this
becomes mixed forest
with Pisonia, Intria landam.
Quettarda in addition to
Messerchmidia, the Intria
locally dominant. This
brest especially along
the passage is rather spars,
with ground cover of
feptures with some Tumpetts,
etc. at edge is serub of
Jerminalia, feaevala, etc.

172 1952 marshall gs. Ujas atol Ochrosea when there is a It They occupies the entire south half of the islet sold stand of its ony It is tall from not too dense in places, not too trees at least so m. tall. seedlings. Focally in these eforts there may be patches of Boerhavia tetraula a thin Thuanea a Volybodium. trees at least som, tall. In the ground franques -With It is Basically a Pisonia blackened sticks are Sight of frest, but locally Intrin common. White-capped ( very dark on acrial platos) and moddies are very abrundantly I stands. Ochrosia, once resting in Visinia and activosis trees, locally staining the ground will started can apparently guans, in places even a 18 Pyry eventually replace Pisonia, little accumulating, but under Pisonia, is a solid not much. they Very locally, under l'ismia trees only, a layer stand of saplings of of preat 1-2 (03)" deep Ochrosia and few a none accumulates. This is of Pisonia. This always seems resually covered by troccus where there is grang- stained clearly leaves and Ochrosing to frumish Hample 97-1 is peat from the seeds. Focally there such a place, pH 4.5-5 (4 tects, Tomog). are sports in the Ochrosia It is dark reddish brown where the trees are yellow, (5YR-3/1-3/2), somewhat mottles and apparently in these with light grayish flegly a tree of two have died + patches: texture fire instructure as there are openings and notting filrows, trugh, springy, crumbly Trunks. In this great the second when crushed. Under this is a layer about 1" thick of story is sparse, of allophyllus moranda young trees of a partially consolidated dank from and light mottles dominants: here is no ground over except unity material ( Lample 97-2), haid

between fingers. 1, H 6-8, (rtests, 7 way). 7 his rists on loose rubble of small pebbles.

The dry quans on leaver

gave pH 5.5-6 (4 tests 7 mog),

dry quano on coral pH 7 (2 tests

fresh quano (white caffed

noddy) pH 6 (1 test) (all 7 mog)

a few feet away under

same conditions but

under Ochrosia instead

of Pisonia, the soil is a

claik brown (7.5 y R-3/2) crumbly

fine material with some

pine rubble ( fample 93),

resting on loose rubble

The flies on this islet are small but numerous, persistent and annoying, seem to such blood. Aeder mosquitors occasional.

forme chichens, no pigs. Intermittently occupied house.

This is left & (stests, Tung)

1952 marshall for Myal atoll 183 relatively even upplining beach is sand, a out considerable sand surface with some perbles accumulated in regetation embedded in it (Samples #105,106) Between two northermost # 105 is from a continuous sheet not scallofts of higher of this, perhaps Im. across, 100 to a boulder beach above from small inequelar patcher. tamples # 107, 10'8 are beach-rock. Immediately frunice pebbles (Marshaller a se franky well-marked tilan". # 108 being the seaward ridge appears. publicavering of 1 sq. ft. continuing northward of peat surface, including as faras boulder-beach also coral pebbles. continues. The northernwort Beneath the peatry larger 200 m. I is sand and gravel is loose coarse sand of again, here the sea is cutting a setted of coal. away a low ridge of sand with a stratum of waterwoon pebbles about 3 dmbelow nother deepwith some small nubl surface. The low wave cut mixed in and seattered cliff, here is about 1 m. high. on the surface. along In north from is a the layon store is a short sand bar bare of low wadge of sand with regetation. irregular low hillows on the sand beach to m behind it for a couple south half are occasional of hundred yards. small accumulations Lelief, probably 6-8 above of boulders. On the reef. sea level (h.t.). IT his flat here are a series of in prolonged to south tongue - or scallof - shaped into the split that connects projections of reef conglomente with the small islet 3-5 dm. bigher than the to south. general level of the flat, there along seaward seach projecting out perpendicular to There is scarcely any ridge ( see p. 188) on south half where the

breach. There are pritted

one place, just north of

between bright and low

slope of the beach! The

not at all clear.

Ex Ebeju Islet (eld.)

188

Dag samples , soil profiles

NO. 52 84-6.127 85-1130 p. 31 36 - p. 131 87- p/34 88 - 131 89-127 90 - 134 91 - 134-7 92 - 135:7 27 93 - 135,7 77 - 135,7 41 - 135 -7 62 - 169 67 98-174 80 99 - 178 100 - 190 101 -180 102 - 180 107 - 180 88-89 104-180 105 -182 89-90 106 - 182 107-182 108-182 109-186 110-181 - 128

83 - 179

A. ...

#86 - p.8	7/2/-//5
87 - 26	72 -11/5
88 - 26	7/7/-///5
89 - 26	16100
90 - 27	The Det
91 - 27	118-120
· 92 - 27	119-126
93 - 27	120-127
94 - 77	121 - 127
95 -	122-126
96 -	123 - 127
97 - 67	124 - 127
98 - 67	125 - 127
99-76	127 - 136
100 - 82	127-136
101 -82	1-28 - 1-651
102 - 83	178 - 164
107 - 83	129-164
104 - 83	130 - 165
105 - 84	131 - 187
106 ~ 82	132-187
107 - 90	
108 - 90	
109 - 90	
110 - 112	+
112 - 112	
113 - 112	
114 - 113	
115 - 113	
116 - 113	
75-72	
117 - 119	

		lang
	#8 -	10.9
	# 9	10.34
4	# 10	10 130
	# 11	10. (30
nd.	#12	p. 136
,	#13	p. 145
4	# 14	p.105
~	# 15	p. 165



